Information Technology:

A Boon for Policy Makers in Indian Higher Education

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Abstract

Policy-makers are responsible to design the effective indicators for research and higher education. They build the framework from research practices to policy. The study tries to find out the various implementation process of major Indian consortia, e-PG Pathasala , N-LIST, eGyankosh, NDL of India. The study also puts emphasis on the design parameters of the above mentioned programs. Policy-makers achieve this by steering research towards problem-solving and towards consolidating the knowledge. Policy for the development of teachers is intended to support more research-informed practice for example through Chartered Teacher Training Programme and through API score for performance measurement. Technology is enabling multi-modal teaching, changing curricula and spawning rich forms of web-based research and collaboration. Education should meet the need of multidisciplinary learners and therefore IT plays the most important role in our society and henceforth individuals should posses technological literacy. The study tries to find out various parameters to measure the effectiveness Digital-India Initiatives, Education Framework, National Institute Ranking Framework. Finally, we would like to conclude that in this digital era information technology is the key which plays a crucial role in our society development and library professionals should be tech literate.

Keywords: Information Technology, Policy, Higher Education, e-PG Pathasala, N-LIST, eGyankosh, NDL of India, NPTEL India, India.

1.1 Introduction

The higher education system in India has grown in a remarkable way, particularly in the post-independence period, to become one of the largest systems of its kind in the world. However, the system has many issues of concern at present, like financing and management including access, equity and relevance, reorientation of programmes by laying emphasis on

health consciousness, values and ethics and quality of higher education together with the assessment of institutions and their accreditation. These issues are important f or the country, as it is now engaged in the use of higher education as a powerful tool to build a knowledge-based information society of the 21st Century.[1]

With rapid developments in information technology (IT), most university students demand more use of IT in their education for two main reasons: (a) it helps the course material be presented in a more comprehensible way; (b) it gives them familiarity with the high-tech tools they might be expected to use in their future careers after graduation. Some universities have already started making changes to their curricula and making arrangements to be more inviting to students by introducing new methods of education. Most of the classes are held in computer labs and the topic of the lecture can be immediately simulated, programmed, or demonstrated on computers. It is not too far in the future that classrooms will be equipped with smart touch panels/screens, projectors, sound systems, tele/video-conference systems, television and radio broadcast/receive systems and other high-tech equipments. Such developments in education also come with some overhead. Managing the high-tech classrooms needs the system administrator properly setup the IT tools in the classroom and the instructor to control these tools actively in class such as turning off the internet access during his/her talk. The role of IT has been investigated by various researchers.[2,3,4,5,6,7]

1.2 Higher education in India

India's higher education system is the third largest in the world, next to the United States and China.[8] The main governing body at the tertiary level is the University Grants Commission, which enforces its standards, advises the government, and helps coordinate between the centre and the state. Accreditation for higher learning is overseen by 12 autonomous institutions established by the University Grants Commission (UGC).[9]

As per the latest 2011 Census, about 8.15% (68 millions) of Indians are graduates, with Union Territories of Chandigarh and Delhi topping the list with 24.65% and 22.56% of their population being graduates respectively.[10] Indian higher education system has expanded at a fast pace by adding nearly 20,000 colleges and more than 8 million students in a decade from 2000-01 to 2010-11. As of 2016, India has 799 universities, with a break up of 44 central universities, 540 state universities, 122 deemed universities, 90 private universities, 5 institutions established and functioning under the State Act, and 75Institutes of National Importance which include

AIIMS, IIT's and NIT's among others. Other institutions include 39,071 colleges as Government Degree Colleges and Private Degree Colleges, including 1800 exclusive women's colleges, functioning under these universities and institutions as reported by the UGC in 2016. Colleges may be Autonomous, i.e. empowered to examine their own degrees, up to PhD level in some cases, or non-autonomous, in which case their examinations are under the supervision of the university to which they are affiliated; in either case, however, degrees are awarded in the name of the university rather than the college.[11,12,13,14,15,16.]

1.3 What are Policies?

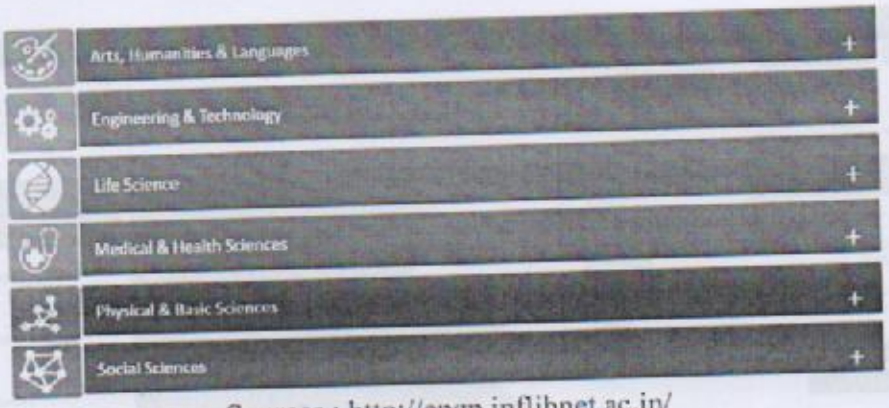
Policies are part and parcel of almost all the countries across the globe. India is one of the countries which has been working on a number of education policies since long. A policy is a deliberate system of principles to guide decisions and achieve rational outcomes. In short, it is a statement of intent, and is implemented as a procedure or protocol. In India, apart from Union Education Minister, all states are free to initiate more education policies. The Central Advisory Board of Education (CABE) is the highest advisory body to advise the Central and State Governments.

1.4. Some of Major Policy Initiatives in Indian Higher Education

Policy makers have taken major indicatives in India in terms of content delivery and furthering education through Information and Communication Technology. Policy makers have planned a variety of initiatives aimed at developing and standardizing digital content for Indian higher education segment. The Mission envisions catering to the learning needs of 500 million people in the country.

1.4.1 e-PG Pathashala

Subject Category



Sources : http://epgp.inflibnet.ac.in/

Ministry of Human Resource Development under its National Mission on Education through ICT (NME-ICT), has assigned work to the UGC for development of e-content in 77 subjects at postgraduate level. The content and its quality is the key component of education system. INFLIBNET Centre (Information and Library Network Centre) is an autonomous Inter-University Centre of the University Grants Commission (UGC) of India under Ministry of HRD (MHRD) located in Gandhinagar, Gujarat. High quality, curriculum-based, interactive content in different subjects across all disciplines of social sciences, arts, fine arts & humanities, natural & mathematical sciences, linguistics and languages is being developed under this initiative named e-PG Pathshala.[17]

Figure No. 01

Contents of e-PG Pathashala

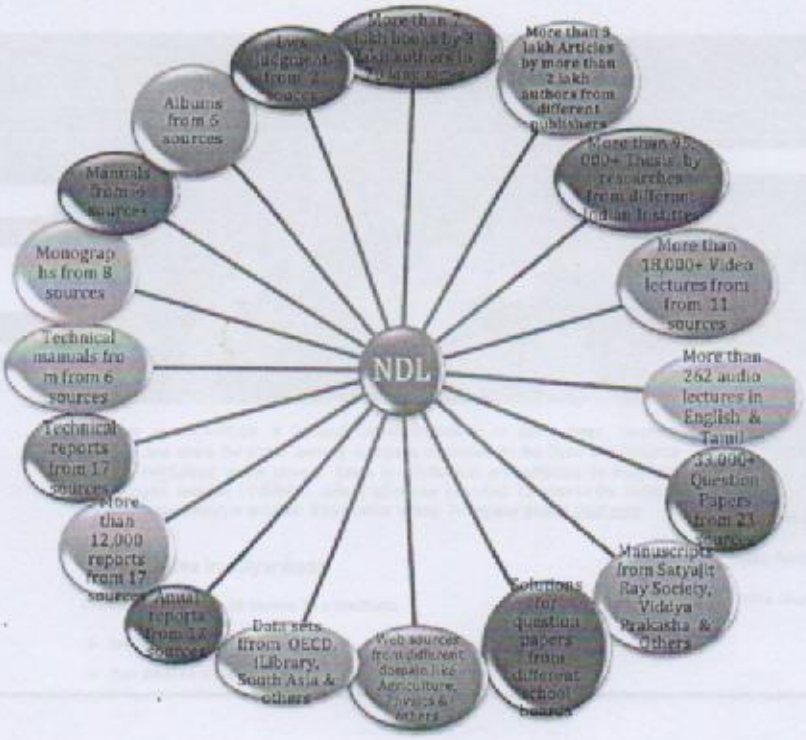
1.4.2 National Digital Library of India (NDL)

Sources : https://ndl.iitkgp.ac.in/

Ministry of Human Resource Development under its National Mission on Education through Information and Communication Technology has initiated the National Digital Library (NDL) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. NDL is designed to hold content of any language and provides interface support for leading vernacular languages (currently Hindi and Bengali). It is being arranged to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners. It is being developed to help students to prepare for entrance and competitive examination, to enable people to learn and prepare from best practices from all over the world and to facilitate researchers to perform inter-linked exploration from multiple sources. The pilot project is devising a framework suitable for future scale up with respect to content volume and diversity to become a full-blown National Digital Library of India over time. It is being developed at IIT Kharagpur.[18]

Figure No. - 02

Learning Resources Type in NDL

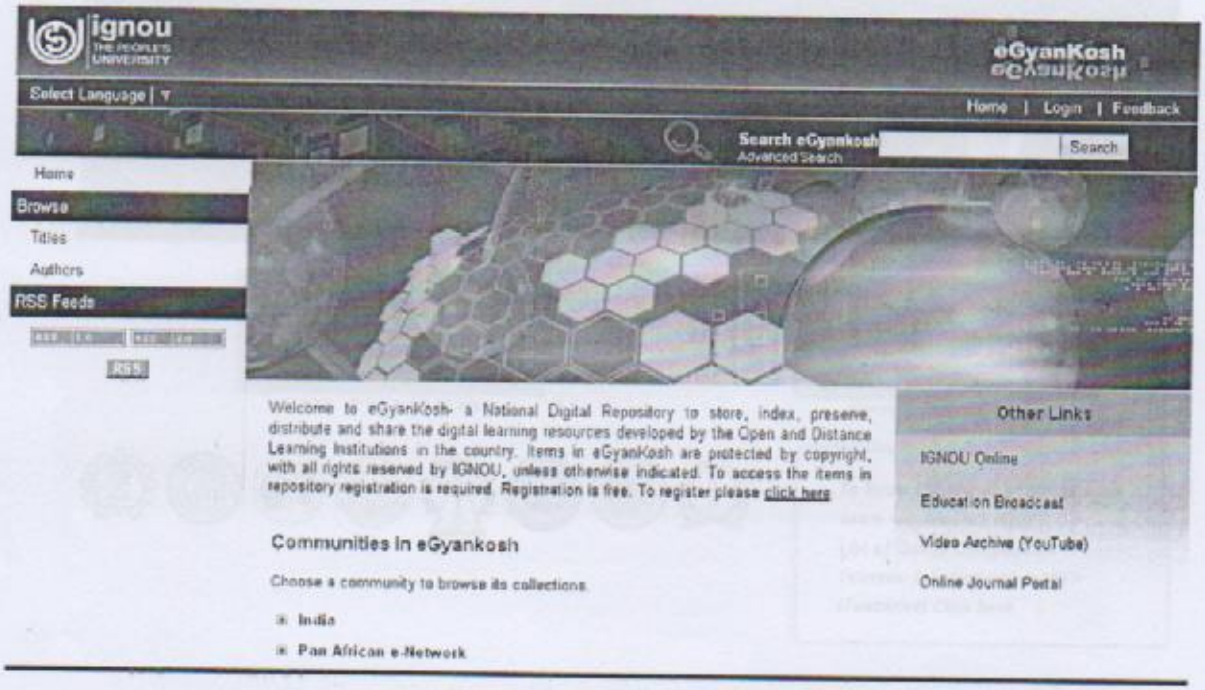


1.4.3 E-Gyankosh

e-GyanKosh - a National Digital Repository to store, index, preserve, distribute and share the digital learning resources developed by the Open and Distance Learning Institutions in the country. Items in eGyanKosh are protected by copyright, with all rights reserved by IGNOU, unless otherwise indicated. To access the items in repository registration is required and registration is free.

eGyanKosh has emerged as one of the world's largest educational resource repositories. It offers free, open access and is available to the world to facilitate self-learners and empower educators. More than 2,200 courses and 2,000 video lectures are available online in the repository. The print-based contents are available as PDF files and video programmes and are being provided through a special channel of IGNOU on YouTube, 2 with the metadata link in the repository. The YouTube channel established for eGyanKosh is quite popular, with more than

2,257 subscribers and more than 191,734 hits on the site as of 4th November 2012. The repository also has a wiki for collaborative content generation.[19]



Sources :http://egyankosh.ac.in/

1.4.4 National Programme on Technology Enhanced Learning (NPTEL)

The National Programme on Technology Enhanced Learning (NPTEL), a project funded by the Ministry of Human Resource Development (MHRD),[1] provides e-learning through online Web and Video courses in Engineering, Sciences, Technology, Management and Humanities. This is a joint initiative by seven IITs and IISc Bangalore. Other selected premier institutions also act as Associate Partner Institutions.

NPTEL is a curriculum building exercise and is directed towards providing learning materials in science and engineering by adhering to the syllabi of All India Council for Technical Education and the slightly modified curricula of major affiliating Universities. It has developed curriculum based video courses and web-based e-courses targeting students and faculty of institutions offering UG engineering programs.[20]

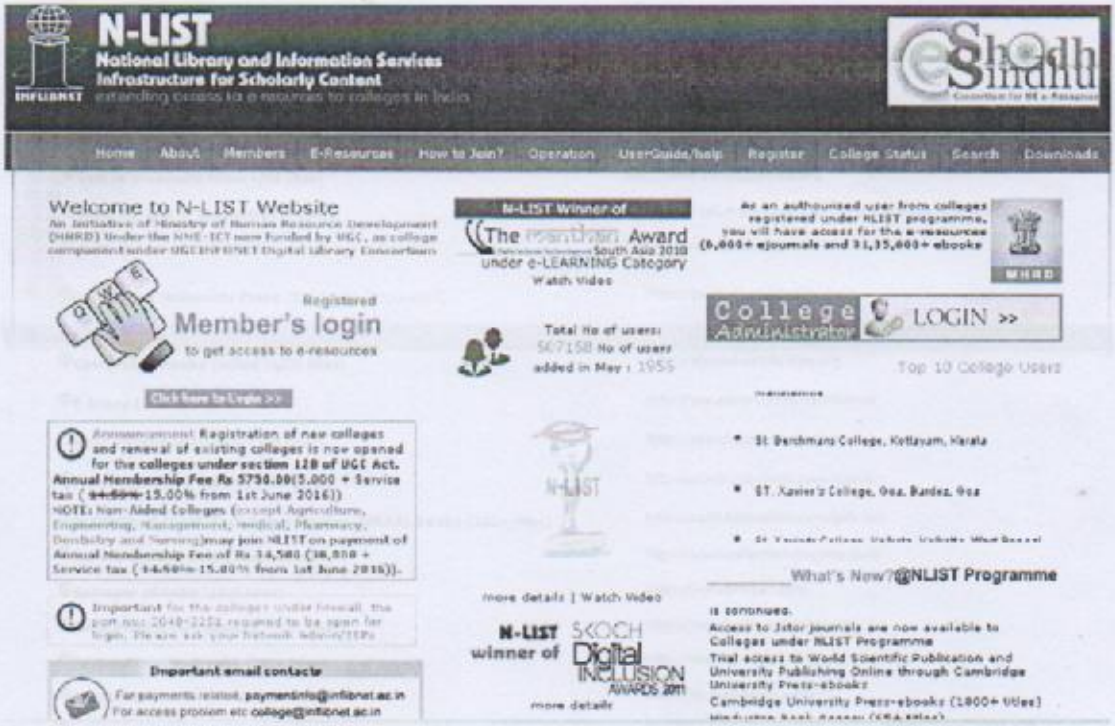
Source: http://nptel.ac.in/

1.4.5 National Library and Information Services Infrastructure for Scholarly Content (N-List)

The Project entitled "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)", being jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi provides for i) cross-subscription to e-resources subscribed by the two Consortia, i.e. subscription to INDEST-AICTE resources for universities and UGCINFONET resources for technical institutions; and ii) access to selected e-resources to colleges. The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other beneficiary institutions through server(s) installed at the INFLIBNET Centre. The authorized users from colleges can access e-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre.

N-LIST: Four Components

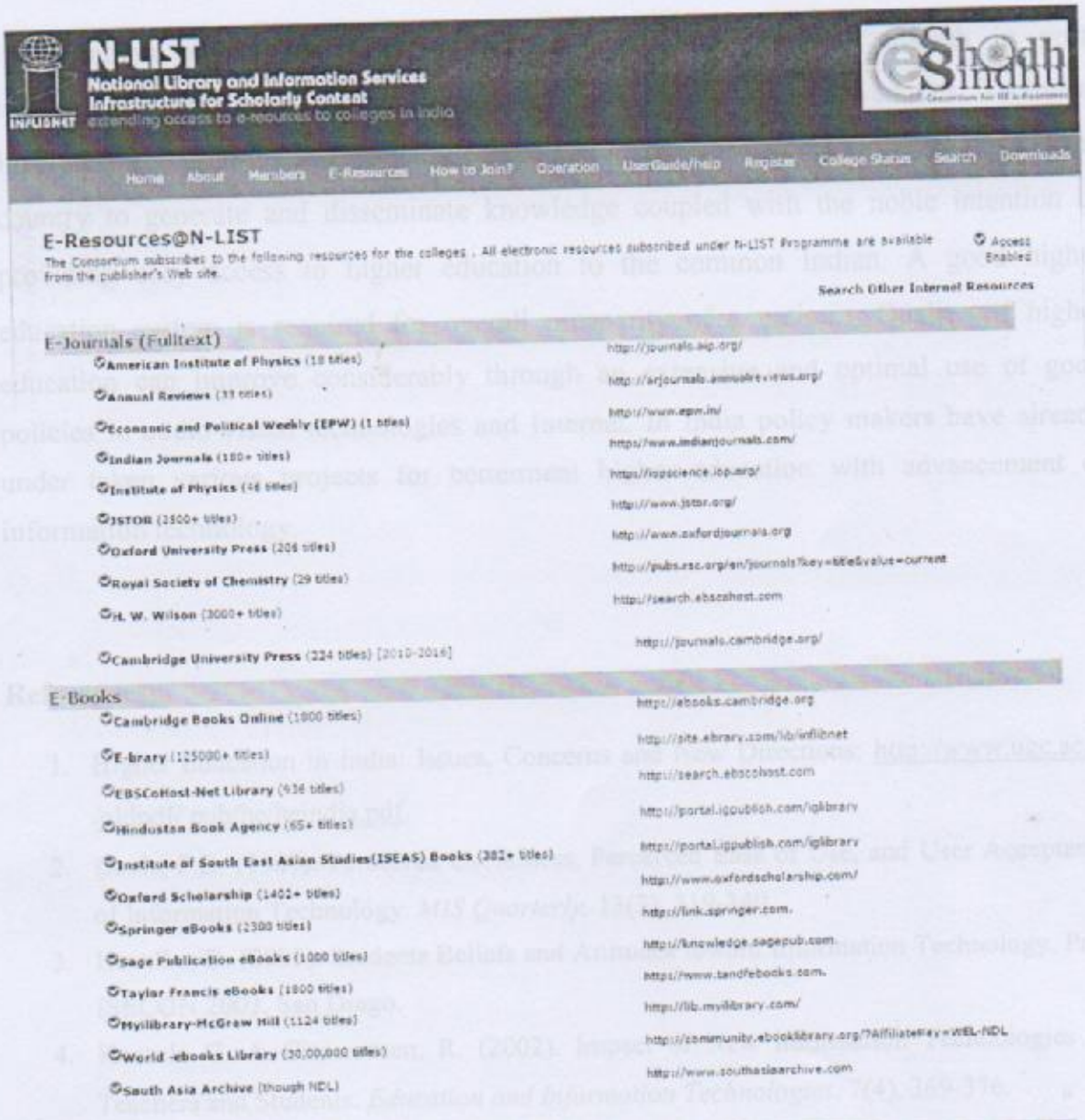
The project has four distinct components, i.e. i) to subscribe and provide access to selected UGC-INFONET e-resources to technical institutions (IITs, IISc, IISERs and NITs) and monitor its usage; ii) to subscribe and provide access to selected INDEST e-resources to selected universities and monitor its usage; iii) to subscribe and provide access to selected e-resources to 6,000 Govt./ Govt.-aided colleges and monitor its usage; and iv) to act as a Monitoring Agency for colleges and evaluate, promote, impart training and monitor all activities involved in the process of providing effective and efficient access to e-resources to colleges.



Source: http://nlist.inflibnet.ac.in/about.php

As on May 30 2017, a total number of 2940 Govt. / Govt.-aided colleges covered under the section 12B of UGC Act as well as Non-Aided colleges. Log-in ID and password for accessing e-resources has been sent to the authorized users from these 2940 colleges. All e-resources subscribed for colleges under the N-LIST Project are now accessible to these 2940 colleges through the N-LIST website (http://nlist.inflibnet.ac.in).[21]

Resources@N-LIST



N-LIST
National Library and Information Services Infrastructure for Scholarly Content
extending access to e-resources to colleges in India

eShodhSindhu

Home | About | Members | E-Resources | How to Join? | Operation | UserGuide/Help | Register | College Status | Search | Downloads

E-Resources@N-LIST

The Consortium subscribes to the following resources for the colleges . All electronic resources subscribed under N-LIST Programme are available from the publisher's Web site.

Access Enabled

Search Other Internet Resources

E-Journals (Fulltext)

American Institute of Physics (18 titles)	http://journals.aip.org/
Annual Reviews (33 titles)	http://arjournals.annualreviews.org/
Economic and Political Weekly (EPW) (1 titles)	http://www.epw.in/
Indian Journals (100+ titles)	https://www.indianjournals.com/
Institute of Physics (46 titles)	https://iopscience.iop.org/
JSTOR (1500+ titles)	http://www.jstor.org/
Oxford University Press (206 titles)	http://www.oxfordjournals.org
Royal Society of Chemistry (29 titles)	http://pubs.rsc.org/en/journals?key=title&value=current
H. W. Wilson (3000+ titles)	http://search.ebscohost.com
Cambridge University Press (224 titles) [2010-2016]	http://journals.cambridge.org/

E-Books

Cambridge Books Online (1900 titles)	http://ebooks.cambridge.org
E-brary (125000+ titles)	http://site.ebrary.com/lib/inflibnet
EBSCoHost-Net Library (936 titles)	http://search.ebscohost.com
Hindustan Book Agency (65+ titles)	http://portal.igpublish.com/iglibrary
Institute of South East Asian Studies(ISEAS) Books (381+ titles)	http://portal.igpublish.com/iglibrary
Oxford Scholarship (1401+ titles)	http://www.oxfordscholarship.com/
Springer eBooks (2300 titles)	http://link.springer.com.
Sage Publication eBooks (1000 titles)	http://knowledge.sagepub.com
Taylor Francis eBooks (1800 titles)	https://www.tandfebooks.com.
Myilibrary-McGraw Hill (1124 titles)	http://lib.myilibrary.com/
World -ebooks Library (30,00,000 titles)	http://community.ebookslibrary.org/?AffiliateKey=WEL-NDL
South Asia Archive (though NDL)	http://www.southasiaarchive.com

Sources : http://nlist.inflibnet.ac.in/eresource.php

1.5. Conclusion

Indian higher education system has undergone enormous growth in post-independent India with a national resolve to establish several Universities, Technical Institutes, Research Institutions and Professional / Non-professional Colleges all over the country to generate and disseminate knowledge coupled with the noble intention of providing easy access to higher education to the common Indian. A good higher education system is required for overall prosperity of a nation. Quality of higher education can improve considerably through an extensive and optimal use of good policies in audio-visual technologies and Internet. In India policy makers have already under taken various projects for betterment higher education with advancement of information technology.

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18. National Digital Library of India. https://ndl.iitkgp.ac.in/
19. Digital Repository to Open Educational Resource Repository: IGNOU's eGyanKosh https:// oerknowledgecloud.org/sites/oerknowledgecloud.org/files/Chapter_15.pdf
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